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Marconi Coherer

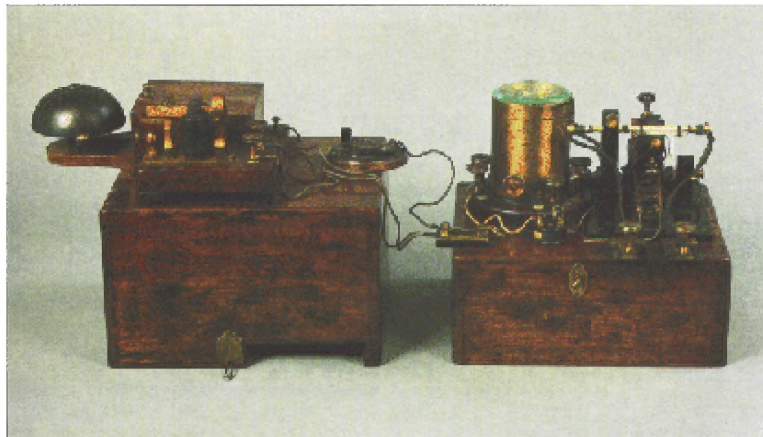
1895 - 1905

The coherer was the first device used to detect radio frequency signals in wireless telegraphy. Its operation is based upon the large resistance offered to the passage of electric current by loose metal filings, which decreases under the influence of radio frequency alternating current.



If you look closely you will see 2 metal electrodes separated by a small gap. Within the tube metal filings surrounded the electrodes. In the presence of radio frequency energy the filings cling together - cohere - and allow a current to pass. This current was used to actuate a telegraph sounder. The problem of the filings continuing to cling together after the removal of the RF energy was solved by tapping the coherer with a small mallet attached to the sounder after the arrival of each signal.

Below is a picture of Marconi's 1895 Coherer receiver (which, unfortunately, I do not own!) Look closely at the upper right corner of the photograph and you will see a coherer identical to the piece in my collection.



Marconi's wireless receiver, built in 1895.

Source: The Guglielmo Marconi Foundation: Historical Museum

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